US Army Corps of Engineers

Regulatory Branch
333 Market Street
San Francisco, CA 94105-2197

SAN FRANCISCO DISTRICT

PUBLIC NOTICE

Project: Alameda County Regional General Permit

NUMBER: 27770S DATE: August 2, 2005 RESPONSE REQUIRED BY: September 1, 2005

PROJECT MANAGER: Holly Costa PHONE: 415-977-8438 Email: holly.n.costa@usace.army.mil

1. **INTRODUCTION:** The Natural Resources Conservation Service (NRCS), 3585 Greenville Road, Suite 2, Livermore, California 94550 (contact: Ms. Ivana Noell (925) 371-0154 x122) has applied for a Department of the Army Regional General Permit (RGP) to authorize discharges of dredged or fill material into waters of the U.S. to improve habitat and soil stability on agricultural lands and along waterways in rural and urban areas in Alameda County, California.

The work would be conducted as part of the Alameda County Resource Conservation District (ACRCD) and the NRCS Conservation Partnership Program. The NRCS is the lead federal agency for this work and as such would ensure any work conducted under this program complies with the National Environmental Policy Act, the Federal Endangered Species Act, the National Historic Preservation Act and any other applicable federal laws.

This application is being processed pursuant to the provisions of Section 404 of the Clean Water Act (33 U.S.C. Section 1344). This RGP is also being coordinated with the Sacramento District Regulatory Branch of the Army Corps of Engineers for the portion of Alameda County that falls within the Sacramento District's boundary.

2. **PROPOSED PROJECT:**

Project Description: NRCS and the ACRCD, which form the Conservation Partnership, propose to assist agricultural and urban landowners within Alameda County by providing permitting assistance to those landowners wishing to restore and enhance the natural resource condition of their properties and help achieve important water quality and habitat conservation goals. The proposed program for Alameda County is based on the model developed in the Elkhorn Slough Watershed Regional General Permit (Corps File # 22941S), but tailored to the resource conditions present in Alameda County.

Regulatory partners involved in the development and/or approval of this program include representatives from the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- National Marine Fisheries Service (NMFS)
- U.S. Army Corps of Engineers (Corps)
- California Department of Fish and Game (CDFG)
- Regional Water Quality Control Board (RWQCB)
- Alameda County Public Works Agency (ACPWA)

The Conservation Partnership would enter into programmatic agreements with regulatory agencies for eighteen specific, standardized conservation practices that have been developed by NRCS to improve habitat and soil stability on agricultural lands and along waterways in rural and urban areas. These conservation practices would primarily be performed for erosion control or restoration in and around waterways. All practices or sets of practices would be installed according to a site-specific plan

and engineered design. Landowners would agree to follow NRCS designs and specifications for conservation work and to comply with all regulatory conditions governing project installation and maintenance. Landowners would also agree to annual, post-project monitoring by NRCS biologists and engineers. This program would not authorize any project that would result in losses of waters greater than half an acre. No filling of wetlands would be authorized by this program.

This permit program would not cover projects that involve any work in fish-bearing streams, salt marshes or estuaries; such projects would require site specific permits. Additionally, the program would not cover any projects conducted in vernal pool habitat, projects with serpentine soils or alkali-sink habitat in the work area, nor would it include any projects with soil types and habitat conditions typical of known pallid manzanita occurrences. Landowners working with the Conservation Partnership on these types of projects will need to seek Department of the Army authorization on a project-by-project basis.

NRCS and ACRCD have requested a Regional General Permit that would authorize all qualifying projects for a five-year period. NRCS and ACRCD would retain discretionary authority over projects implemented under the program and maintain oversight of all individual projects through their planning, installation, and monitoring. NRCS and ACRCD would provide permitting and technical assistance, provide the opportunity for cost-share assistance to participating landowners, ensure projects are implemented properly, and provide annual reports to the Corps and other regulatory agency participants.

Proposed Conservation Practices. Actions that NRCS would promote on private lands in Alameda County under the Conservation Partnership Program would be limited to the installation and maintenance of eighteen conservation practices (see Table 1). Standards and/or Specifications for each conservation practice are found in the NRCS' electronic *Field Office Technical Guide, Section IV* (www.ca.nrcs.usda.gov/technical). NRCS proposes an unspecified number of conservation projects (comprised of one or more of the eighteen proposed conservation practices) in unspecified locations but estimates that 15 to 30 projects would occur annually over the five-year duration of the program. Impacts associated with each conservation practice are anticipated to be similar to typical projects installed during the past 10 years (see Table 2).

Project Area: Because projects will be occurring in multiple locations, it is not possible to define specific project sites at this time, although they will all occur on private properties within Alameda County (see Figure 1).

Alameda County encompasses an area of 469,400 acres and is situated in the greater East Bay region. The majority of the county's population lives in the highly urbanized area along the easternmost portion of San Francisco Bay. This western portion of Alameda County includes the cities of Oakland, Hayward, Alameda, San Leandro, and Berkeley. The rural, eastern portion supports ranching, with an urban/suburban center located in the Tri-Valley region of Livermore, Pleasanton, and Dublin. The county is approximately 50 percent agricultural land and 50 percent urban lands. The program would primarily serve the ranching community in the eastern, rural portion of Alameda County and landowners with streamside properties in rural-urban interface areas.

The proposed program area consists of all agricultural lands in eastern Alameda County and all waterways within Alameda County. The major watersheds are the Alameda Creek, San Leandro Creek, and San Lorenzo Creek watersheds.

The program would NOT cover projects occurring in stream reaches that are currently known to support steelhead (*Oncorhynchus mykiss*): Alameda Creek below the inflatable dams, San Lorenzo Creek below Cull and Don Castro Dams, San Leandro Creek below Chabot Reservoir, or Codornices Creek, or in

Alameda County's San Francisco Bayfront salt marsh or estuary habitats.

General Protection Measures: In addition to the existing NRCS planning processes that ensure National Environment Policy Act (NEPA) compliance and sound decision making in all conservation planning related to the program, NRCS would incorporate the following protective measures into the program to avoid or minimize adverse effects of actions to be covered by this project. These measures, as appropriate for an individual project under the program, would be included as special conditions on any practice installed by NRCS within the habitat of federally listed or proposed threatened and endangered species.

NRCS and participating regulatory agencies have developed the following general protective measures and conditions, protective measures and conditions for specific conservation practices, and species-specific protective measures.

Annual Notification of Proposed Projects

Under the terms of the Regional General Permit, the NRCS would be required to notify the Corps annually each spring of proposed projects to allow Corps review and approval prior to project construction. The pre-construction notification would consist of a table containing site-specific information for each project. The permitting agencies may provide additional conditions on individual projects. NRCS would then incorporate these additional agency conditions into the conservation plan and engineered design for a project.

Project Personnel Education Program

A USFWS-approved biologist would conduct a training session for all project personnel before any construction activities begin at a project site. All project workers and persons associated with the project, including NRCS and ACRCD staff, landowners and managers, would attend this training. The representative responsible for reporting take to the USFWS and CDFG must be present. Personnel joining the project at later date would receive the same training before accessing the site and engaging in any project activities. Training sessions would be conducted in all appropriate languages.

Temporal Limitations on Construction

The general construction season would be from June 15 to October 15 (dry season); however, modifications to that time frame may be made on a site-specific and/or species-specific basis. The timing of construction for individual projects would take into consideration Federal- and State-listed and proposed fish, wildlife, and plants potentially occurring in a project area. Where habitat for listed and proposed species is identified on or adjacent to the project work site, the timing of construction and related activities would be restricted to avoid disturbance to the breeding, feeding, mating, and sheltering of these species. Work beyond the proposed construction period may be authorized following consultation with the USFWS and/or CDFG, provided the work would be completed prior to first winter rains and stream flows.

Limitation on Earthmoving

The total area of a project site, including the number and size of access routes and staging areas, would be limited to the minimum necessary to achieve the project goal. Disturbance to existing grades and vegetation would be limited to the smallest areas possible. Placement of staging areas and other facilities would avoid and limit disturbance to habitat as much as possible. Routes would be clearly demarcated and would be outside of riparian areas, wetland areas, and other special habitats wherever possible. Native tree removal and disturbance of native shrubs or woody perennials adjacent to the streambank or stream channel would be avoided or minimized to the fullest extent

possible. If native trees over 6-inch diameter at breast height are to be removed, they would be replaced at a 3:1 ratio. If riparian vegetation would be disturbed, it would be replaced with similar species. Finished grades would not have side slopes steeper than 2:1 without approval of project design by USFWS and CDFG. Vertical streambanks existing prior to construction may be graded to the slopes described in the conservation practice or engineered design.

Installation of practices would produce only short-term disturbance resulting in insignificant amounts of fine sediment during construction because protective measures to minimize all potential contributions of sediment to waterways would be incorporated into the project description. To the greatest extent possible, excavated materials would be used on site. In the rare situations where excavated material is not used in the implementation of a practice, it would be removed and moved out of the 100-year floodplain.

Limitations on Construction Equipment

NRCS and ACRCD would ensure that contamination of habitat does not occur during routine operations.

The following precautionary measures would be adhered to:

a. Excavation and grading activities would be conducted only during dry weather.
b. A contained area would be designated for equipment storage, short-term maintenance, and refueling. It would be located at least 50 feet from water bodies. If site conditions (property size) make this 50-foot distance infeasible, these activities would occur at the maximum distance possible from water bodies.
c. Vehicles would be inspected daily for leaks and repaired immediately.
d. Leaks, drips, and other spills would be cleaned up immediately to avoid soil or groundwater contamination.
e. Major vehicle maintenance and washing would be done off site.
f. All spent fluids including motor oil, radiator coolant, other fluids, and used vehicle batteries would be collected, stored, and recycled as hazardous waste off site.
g. All construction debris and sediments would be taken to appropriate landfills. However, in some cases, sediments may be disposed of in upland areas on- or off-site, when appropriate.
h. Dry cleanup methods (i.e., absorbent materials, cat litter, or rags) would be used whenever possible. If water is used, the minimal amount required to keep dust levels down would be used.
i. Spilled dry materials would be swept up immediately.

Heavy equipment would perform work from the top of the creek banks and use existing ingress or egress points wherever possible. Heavy equipment would not enter flowing or standing water, except to cross a stream or pond to reach a work site where no other access is available.

Removal of Trash and Project Debris

During project activities, all trash would be properly contained, removed from the work site, and appropriately disposed of at an appropriate off-site disposal location. All trash that may attract predators would be securely covered at all times. Any construction-related trash and debris remaining at the completion of a project would also be removed from work areas and properly disposed of.

Revegetation and Removal of Exotic Plants

Project area vegetation would be restored to pre-construction conditions or better. Native plants characteristic of the local habitat type would be used

when installing and maintaining practices in natural areas. Locally collected native plant materials would be used for propagation and planting, where feasible. However, non-invasive, non-persistent grass species (i.e., barley grass) may be used as nurse crops or for temporary erosion control to stabilize disturbed slopes until native plants have established.

The spread or introduction of exotic plant species would be avoided to the maximum extent possible by avoiding areas with established native vegetation during project activities, restoring disturbed areas with native species where appropriate, and conducting post-project monitoring and control of exotic species. Removal of invasive exotic species would be strongly recommended. Mechanical removal (hand tools, weed whacking, hand pulling) of exotics would be done in preparation for establishment of perennial plantings. To the extent possible, the site would be revegetated at the same time as exotic vegetation is removed. Giant reed or other invasive species that can establish from cuttings would be disposed of in a manner that would not allow re-establishment to occur.

Conditions for Erosion Control

Erosion control and sediment detention devices would be incorporated into the project design and installed at the time of construction of a conservation practice. These devices would be in place prior to the onset of rains for the purposes of minimizing fine sediment and sediment and water slurry input to flowing water and detaining sediment-laden water on site. These devices would be placed at all locations where the likelihood of sediment input exists. Sediment collected in these devices would be disposed of away from the collection site and, where appropriate, on site above the ordinary high water mark.

Streambank, ground, or soil (except for soil in agricultural fields) exposed as a result of construction, and soil above toe-rock would be revegetated by live planting, seed casting, or hydroseeding prior to the close of the construction season of the project year.

All debris, sediment, rubbish, vegetation, or other material removed from a waterway would be removed to a location where it would not re-enter the waterway or other water body.

The installation and maintenance of projects would not result in sediment delivery to a clean bottom of stream channel. A "clean" bottom is characterized by natural stream substrate, such as cobbles, gravel, and small stones (1 to 6 inches in size or similar to existing, background conditions).

Limitations on Work in Streams and Permanently Ponded Areas

If it is necessary to conduct work in or near a live stream, the workspace would be isolated from flowing water to prevent sedimentation and turbidity. Prior to construction activities, sandbag cofferdams, straw bales, silt fences, culverts, or visqueen would be installed to divert streamflow away from or around workspace at an appropriate rate to maintain downstream flows during construction. Excavating a channel for the purpose of isolating the workspace from flowing water is prohibited and would not be allowed.

Sediment removal from the stream channel or ponds may occur if it would improve biological functioning of the stream and restore channel capacity. Sediment removal would not occur in a flowing stream or standing water.

No creosote treated timbers shall be used for grade or channel stabilization structures, bulkheads, or other instream structures. Concrete would not be used in fish-bearing streams and would only be used above the ordinary high water mark of non-fish-bearing streams (outside of Corps jurisdiction). The use of grouted rock would be minimized and would not be used in the bed of a waterway.

Construction or maintenance activities associated with the practices covered under this program would not result in increases in turbidity in the stream (as measured by Nephelometric Turbidity Units (NTU)) of more than 10 percent of upstream background.

Limitations on Use of Herbicides and Fertilizers in Aquatic Environments

Except as noted below, no pesticides or soil amendments would be used in the streambed or bank to hasten or improve the growth of critical area plantings. Soil amendments would only be used where poor soil structure would prevent or seriously compromise the establishment of new plants. In most circumstances, organic amendments would be used to ensure successful establishment of restoration vegetation associated with the practices. In situations where organic amendments would not guarantee adequate establishment of restoration vegetation, application rates for non-organic soil amendments would be based on soil nutrient testing and would utilize slow release or split applications to minimize leaching or runoff into water bodies. Soil amendments may be used on stream banks above the ordinary high water mark during the year of planting, if necessary.

Where it is necessary to use herbicides to control established stands of exotics or to control the invasion of exotics into restoration plantings, they would be applied according to registered label instructions and conditions. Only glyphosate-based herbicides (e.g., Rodeo) would be used near waterways; use with a surfactant would be reviewed with the USFWS. Herbicides would be applied directly to plants and would not be spread upon any water or where they can leach into waterways in subsequent rains. Herbicides may be applied to control established stands of non-native species, such as vinca (*Vinca major* and *V. minor*), Cape ivy (*Senecio mikanioides*), and giant reed.

In addition to the general limitations, the measures shown in Table 3 would be employed for specific conservation practices.

3. COMPLIANCE WITH VARIOUS FEDERAL LAWS:

National Environmental Policy Act of 1969 (NEPA): The Corps will assess the environmental impacts of the proposed action in accordance with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. Section 4371 et. seq.), the Council on Environmental Quality's Regulations, 40 C.F.R. Part 1500-1508, and Corps' Regulations, 33 C.F.R. Part 230 and 325, Appendix B. Unless otherwise stated, the Environmental Assessment will describe only the impacts (direct, indirect, and cumulative) resulting from activities within the Corps' jurisdiction. The documents used in the preparation of the Environmental Assessment will be on file with the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, 333 Market Street, San Francisco, California 94105-2197.

Endangered Species Act of 1973 (ESA): Section 7 of the Endangered Species Act requires formal consultation with the USFWS and/or NMFS if a Corps permitted project may adversely affect any Federally listed threatened or endangered species or its designated critical habitat. Species and critical habitat currently identified as potentially impacted by the proposed project include:

Plants

- large-flowered Fiddleneck (*Amsinckia grandiflora*),
- robust spineflower (*Chorizanthe robusta* var. *robusta*),
- Santa Cruz Tarplant (*Holocarpha macradenia*),

Animals

- Callippe silverspot butterfly (*Speyeria callippe callippe*),

- Central California Coast steelhead (*Oncorhynchus mykiss*),
- California red-legged frog (*Rana aurora draytonii*),
- California tiger salamander (*Ambystoma californiense*),
- Alameda Whipsnake (*Masticophis lateralis euryxanthus*), and
- San Joaquin kit fox (*Vulpes macrotis mutica*).

NRCS requested formal Section 7 Consultation with the USFWS to assess potential impacts to these species and develop protection measures to minimize impacts. The USFWS issued a programmatic biological opinion dated August 12, 2004, based upon their review of this program. The programmatic opinion evaluates the project's effects on the California red-legged frog, Alameda whipsnake, San Joaquin kit fox, Callippe silverspot butterfly, large-flowered fiddleneck, robust spineflower, and the Santa Cruz tarplant for a period of five years (the length of the program). The USFWS is in the process of preparing a programmatic opinion for the project's effects on the California tiger salamander. The protection measures listed in the Programmatic Biological Opinions would be incorporated as permit conditions of the RGP for individual projects carried out under the Conservation Partnership Program.

The Conservation Partnership Program would not cover projects that involve grade-stabilization structures in fish-bearing streams or dams. Landowners working with the Conservation Partnership on these types of projects will need to seek site specific permits on a project-by-project basis.

Magnuson-Stevens Fisheries Conservation and Management Act: NMFS and several interagency fisheries councils have designated specific water bodies as Essential Fish Habitat (EFH) in accordance with the Magnuson-Stevens Fisheries Conservation and Management Act. The program would not cover projects occurring in stream reaches that are currently known to support federally listed fish species or EFH.

Clean Water Act of 1972 (CWA):

a. Water Quality: Under Section 401 of the Clean Water Act (33 U.S.C. Section 1341), an applicant for a Corps permit must first obtain a State water quality certification before a Corps permit may be issued. The applicant has provided the Corps with evidence that it has submitted a request for State water quality certification to the San Francisco Bay Regional Water Quality Control Board (RWQCB). The Central Valley RWQCB has deferred jurisdiction of this project to the San Francisco RWQCB. No Corps permit will be granted until the applicant obtains the required water quality certification. The Corps may assume a waiver of water quality certification if the State fails or refuses to act on a valid request for certification within 60 days after the receipt of a valid request, unless the District Engineer determines a shorter or longer period is reasonable for the State to act.

Those parties concerned with any water quality issues that may be associated with this project should write to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612 by the close of the comment period of this Public Notice.

b. Alternatives: Evaluation of this proposed activity's impact includes application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b)(1) of the Clean Water Act (33 U.S.C. Section 1344(b)). The goal of the conservation practices and restoration activities covered under the Program is to protect and enhance water quality. In some cases, installation of these practices necessitates work in or around water in order to achieve the ultimate goal of encouraging activities that protect these resources. An evaluation has been made by this office under the guidelines and it was determined that the proposed project is water or wetland dependent.

Coastal Zone Management Act of 1972 (CZMA): Section 307 of the Coastal Zone Management Act requires the applicant to certify that the proposed project will comply with the State's Coastal Zone Management Program, if applicable. The program would not cover projects occurring within the coastal zone.

National Historic Preservation Act of 1966 (NHPA): Based on a review of survey data on file with various City, State and Federal agencies, no historic or archeological resources are known to occur in the project vicinity. If unrecorded resources are discovered, operations will be suspended until the NRCS completes consultation with the State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act.

4. **PUBLIC INTEREST EVALUATION:** The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits that reasonably may be expected to accrue from the proposed activity must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered, including its cumulative effects. Among those factors are: conservation, economics, aesthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

5. **CONSIDERATION OF COMMENTS:** The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest in the proposed activity.

6. **SUBMISSION OF COMMENTS:** Interested parties may submit, in writing, any comments concerning this activity. Comments should include the applicant's name and the number and the date of this Public Notice, and should be forwarded so as to reach this office within the comment period specified on Page 1. Comments should be sent to the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, 333 Market Street, San Francisco, California 94105-2197. It is the Corps' policy to forward any such comments that include objections to the applicant for resolution or rebuttal. Any person may also request, in writing, within the comment period of this Public Notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose name and address are indicated in the first paragraph of this Public Notice or by contacting Holly Costa of our office at telephone 415-977-8438 or E-mail: holly.n.costa@usace.army.mil. Details on any changes of a minor nature that are made in the final permit action will be provided upon request.

Table 1. Conservation Practices

1. Access Roads (Improvement) (560)	This practice would be used to improve travelways to reduce soil erosion, minimize the frequency of grading, and provide safe passage. No new roads would be established though new segments may be recommended to repair or replace improperly placed roads or failed locations. Existing roads would be improved (*e.g.*, graded, drainage structures installed, etc.) to move livestock, produce, or equipment, or to improve access for property management while controlling runoff to prevent erosion. Sound engineering practices would be followed to ensure that the road improvement design meets the requirements of the existing use and that maintenance requirements do not exceed operating budgets. Drainage structures (*i.e.*, culverts, bridges, or grade dips) would be incorporated into road improvement designs dependent on the runoff conditions to maintain or improve water quality. Roadside ditches, water breaks, water bars, or drop inlets would be used to control surface runoff when necessary. Road banks and disturbed areas would be vegetated as soon as possible, using site-specific revegetation plans. Watercourses and water quality would be protected during and after construction by erosion-control measures and regular maintenance. Associated filter strips, sediment and water control basins, and other conservation practices would be used and maintained as needed. Additionally, parking space as needed would be provided to keep vehicles off the road or from being parked in undesirable locations.
2. Critical Area Planting (342)	This practice would be used to stabilize the soil, reduce damage from sediment and runoff to downstream areas, and improve wildlife habitat and visual resources. Trees, shrubs, vines, grasses, or legumes would be planted on highly erosive or critically eroding areas. The resulting vegetation cover would be expected to reduce the amount of soil nutrients washed into surface waters or leached into ground water. When placing or maintaining a critical area planting above the high water mark, workers would install filter fabric fence, fiber rolls, and/or hay bales, if needed, to keep sediment from flowing into the adjacent water body. When vegetation is sufficiently mature to provide erosion control, it may be appropriate to remove the fence, fiber rolls, and/or hay bales. Annual review by NRCS would occur until the critical area planting is established and providing effective erosion control. In most circumstances, organic compost would be used to ensure successful establishment of restoration vegetation associated with the practices. Chemical fertilizers would not be used in the stream area to hasten or improve the growth of critical area plantings, except where organic composts would not guarantee adequate establishment of restoration vegetation. In these instances, fertilizers would only be used above normal high water mark and only during the year of planting. Application rates would be based on soil nutrient testing and would utilize slow-release or split applications to minimize leaching and runoff into water bodies. Pesticide use would be limited to the use of herbicides to control established stands of non-native species including cape ivy (*Senecio mikanioides*) and giant reed (*Arundo donax*). Herbicides would be applied to those species according to the registered label conditions. Herbicides would be applied directly to plants and would not be spread upon water.
3. Diversion Structures = Overland Flow Interceptors for Use in Upland Areas (362)	The installation of overland flow interceptors (diversion structures) would involve constructing earth channels across a slope with supporting ridges on the lower side. This practice would assist in the stabilization of a hillside by decreasing the length of slope and thus reducing sheet and rill erosion and the formation of gullies. Consequently, the amount of sediment and related pollutants delivered to surface waters would be reduced.

3. Diversion Structures = Overland Flow Interceptors for Use in Upland Areas (362)	Diversions established as a temporary measure would have a life span of less than two years and would be able to carry, at a minimum, the 2-year, 24-hour duration storm event. All other long-term diversion structures would have the capacity to carry the peak runoff from a 10-year frequency, 24-hour duration storm event at a minimum. Locations of the structures would be based on outlet conditions, topography, land use, agricultural operations, and soil type. Diversions would not be used below high sediment-producing areas unless land treatment practices or structural measures that are designed to prevent damaging accumulations of sediment in the channels are installed prior to or at the same time as the diversion structure. If movement of sediment into the channel is a significant problem, a vegetated filter strip (Conservation Practice 393) would be used where feasible (e.g., soil or climate does not preclude its use).
4. Filter Strips (393)	Filter strips or areas of vegetation would be used at the lower edges of fields, pastures, or other areas adjacent to streams, ponds, and lakes to remove sediment, organic matter, and other pollutants from runoff and wastewater. Installation often requires soil manipulation to remove surface irregularities and to properly address water movement through the filter strip. Pesticides and nutrients may be removed from runoff flowing through the vegetated filter strip by infiltration, absorption, adsorption, decomposition, and volatilization thereby protecting water quality downstream. Filter strips may also reduce erosion on the area on which they are constructed although they may not filter out some soluble or suspended fine-grained materials, especially during heavy rain events.
5. Grade Stabilization Structures (410)	This practice refers to the installation of grade stabilization structures into creek beds, pond spillways, channel bottoms, or gullies which would be used to control the grade and prevent head-cutting in natural or artificial channels. This practice refers to rock, concrete, or timber structures that do not control the rate of flow or water level in channels. Stream scouring would be reduced above and below the structure resulting in reduced stream bank and streambed erosion. This would decrease the yield of sediment and sediment-attached substances. The reduction in sediment would improve downstream water quality. If working in flowing water is necessary, NRCS would require landowners to isolate or dewater the site. Water would be diverted by installation of a temporary barrier. All water above the barrier would be diverted downstream at an appropriate rate to maintain downstream flows during construction. Adequate water depth and channel width would be maintained at all times to allow for fish passage. When construction is completed, the barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance possible to the substrate. This practice refers to the installation of grade stabilization structures into creek beds, pond spillways, channel bottoms, or gullies which would be used to control the grade and prevent head-cutting in natural or artificial channels. For the purposes of our program, this practice would not be installed in fish-bearing streams and would primarily be used for gully repair. This practice refers to rock, timber, or vegetative structures, such as a brush mattress, placed to slow water velocities above and below the structure, resulting in reduced stream bank and streambed erosion. This will decrease the yield of sediment and sediment-attached substances and improve downstream water quality.
6. Grassed Waterways (412)	NRCS would use this practice for the control of runoff by shaping or grading natural or constructed channels and planting the area to grass. This practice may reduce erosion in areas of concentrated flow (*e.g.*, gullies) and result in the reduction of sediment and

6. Grassed Waterways (412)	substances delivered to receiving waters. Vegetation may act as a filter in removing some of the sediment delivered to the waterway, although this is not the primary function of a grassed waterway. Grassed waterways may be used to move runoff from agricultural lands into riparian or wetland areas or move excess runoff from ponds to riparian areas. Native or non-persistent, non-invasive non-native plant species would be used where feasible A grassed waterway is a natural or constructed channel that is shaped or graded to required dimensions and velocities, and established to suitable begetation for the stable conveyance of runoff. This practice may reduce the erosion in a concentrated flow area, such as a gully. This may result in the reduction of sediment and substances delivered to receiving water. Vegetation may act as a filter in removing some of the sediment delivered to the waterway, although this is not typically the primary function of a grassed waterway. Grassed waterways may be used to move runoff from agricultural lands into riparian or wetland areas or into a sediment basin. Grading and seedbed preparation may result in some short-term soil loss prior to establishment of vegetative cover.
7. Obstruction Removal (500)	NRCS would use obstruction removal where existing obstructions and material at a project site prevent or hinder the installation of conservation practices or otherwise adversely affect the environment. Obstructions may include, but are not limited to, concrete, asphalt, structural steel, trash, rock, or wood. Unwanted vegetative material such as hedgerows, non-native invasive species like eucalyptus, arundo, and other exotics are included in the practice. All material removed that could not be utilized or disposed of onsite would be removed and disposed of in an environmentally acceptable manner. Any areas where vegetation removal was removed would be replanted with native vegetation.
8. Pipeline (516)	Pipeline installation would be used to shift livestock to constructed water sources and away from streams and lake to reduce bank erosion, sediment yield, and manure deposition in watercourses. It includes the installation of pipelines for conveying water from springs or ponds to alternative locations. Occasionally, pipelines may cross streams or other watercourses.
9. Pond Restoration (378R)	For purpose of this program, pond restoration would be limited to the repair, improvement, and maintenance of existing farm pond structures. This practice would reduce soil erosion and sedimentation, improve and provide long-term habitat protection, and improve livestock water availability. This practice would be used to repair and improve emergency spillways, provide alternative pipe outlets for water flow, and desilt the pond. No new in-stream pond applications would be approved with this practice.
10. Riparian Forest Buffer (391)	The establishment of riparian forest buffers would serve to reduce sediment, nutrient, and other contaminant loading to streams and water bodies and to improve wildlife habitat. This practice would be used to create shade to lower water temperatures, provide a source of detritus and large woody debris for fish and other aquatic organisms, and provide riparian habitat and corridors for wildlife. This practice would be applied on stable areas adjacent to water bodies and would consist of native vegetative plantings ultimately resulting in forest canopy and understory development.

11. Sediment Basins (350)	This practice would consist of the construction of basins to collect and store debris or sediment. Sediment basins would trap sediment, sediment-associated materials, and other debris to prevent undesirable deposition in waterways and other bottomlands. Basins would generally be located at the base of sloping agricultural lands adjacent to natural drainage or riparian areas. The practice would not treat the source of sediment but rather would provide a barrier to reduce degradation of surface water downstream. Although some ground water recharge may occur, little if any pollution hazard is expected. The design of spillways and outlet works would include water control structures, such as energy dissipaters, to prevent scouring at the discharge point into the natural drainage. Sediment basins would not be constructed in a stream channel or other permanent water body. However, the work may involve grading along one shore of the stream to remove gullies or eroded banks prior to building a stream-side basin. When construction of a sediment basin includes a pipe or structure that empties into a stream, an energy dissipater would be installed to reduce bank scour.
12. Spring Development (574)	Spring development would consist of capping or collecting water at a spring or seep and transporting it through pipelines to tanks or troughs to provide alternative livestock watering facilities. The area around the water source may be fenced to exclude livestock. This practice would facilitate better rangeland management by improving the distribution of water and would allow for the exclusion of livestock from streams, ponds, and lakes. Development would be confined to springs or seep areas that could furnish a dependable supply of water. Water flow from the spring or seep may be temporarily reduced during the construction period.
13. Stream Bank Protection (580)	This practice would consist of the use of vegetation or structures to protect banks of streams, lakes, estuaries, or excavated channels against scour and erosion. This activity would protect banks of water bodies, reduce sediment loads, and improve fish and wildlife habitat; it would also protect adjacent land from erosion damage. NRCS would apply this practice to natural or excavated channels where streambanks are susceptible to erosion from the action of water or debris or to damage from livestock or human activities.
14. Stream Channel Stabilization (584)	This practice would consist of the use of suitable structures to stabilize stream channels and would be used for stream channels undergoing damaging aggradation (filling in of) or degradation that cannot be controlled by upstream practices. This practice would also improve riparian vegetative growth and provide more favorable habitat for wildlife. This practice may also include the removal of accumulated sand or sediment. If it is necessary to work in a flowing waterway, the site would be isolated or dewatered and the water above the barrier would be diverted downstream at an appropriate rate to maintain downstream flows during construction. Adequate water depth and channel width would be maintained at all times to allow for fish passage. At the completion of construction, the barriers to flow would be removed in a manner that would allow flow to resume with the least disturbance possible to the substrate.
15. Stream Habitat Improvement and Management (formerly identified as Fish Stream Improvement) (395)	This practice would be used to create new fish habitat or to enhance an existing habitat. This practice would be used to improve or enhance aquatic habitat for fish in degraded streams, channels, and ditches by providing shade, controlling sediment, and restoring pool and riffle stream characteristics. Pools and riffles are formed in degraded stream sections through the strategic placement of logs, root wad, or natural rocks that reduces the flow velocity through

15. Stream Habitat Improvement and Management (formerly identified as Fish Stream Improvement) (395)	the area. Coarse-grained sediments settle reducing the quantity of sediment delivered downstream. The dissolved oxygen content may be increased, improving the stream's assimilative capacity. Increased shading from shrub and tree plantings would decrease water temperature during the warm season. This practice may also be used for removal or modification of fish barriers such as flashboard dams or logjams. This practice may be used to remove culverts that pose barriers to fish passage.
16. Structure for Water Control (587)	Water control structures would serve to properly convey overland flow or concentrated water flow into a drainageway or under a road, for example, as part of improvement designs for access roads (560) or for fish screens. This practice applies to permanent structures needed to control the elevation of water and to modify water flow to provide habitat for fish, wildlife, and other aquatic animals. Practice specifications may include corrugated metal pipe (culverts) and fish screens.
17. Underground Outlets (620)	This practice would consist of the installation of conduit beneath the surface of the ground to collect surface water and convey it to suitable outlets. Excess surface water from rangeland or other areas on steep terrain would be collected and conveyed to a sediment basin, pond, or stream by installing pipelines underground. Location, size, and number of inlets would be determined on a project-specific basis to collect excess runoff and prevent erosive surface flow.
18. Water and Sediment Control Basins	This practice would consist of the construction of earthen embankments or a combination ridge and channel across slopes or minor watercourses to form sediment traps and water detention basins. This practice would trap and remove sediment and sediment-attached substances from runoff. Trap control efficiencies for sediment and total phosphorous transported by runoff may exceed 90 percent for silt loam soils. Salts, soluble nutrients, and soluble pesticides would be collected with the runoff and would not be released to surface waters. Although some ground water recharge may occur, little if any pollution hazard is expected, as previously noted for Sediment Basins (Conservation Practice 350). Basins would usually be located alongside riparian or wetland environments to buffer the impact of runoff and sediment delivery prior to release to the natural drainage. Basins would reduce concentrated off-site flow and associated erosion by the metered release of runoff following large storm events.

Table 2. Grading Dimensions and Volume Associated with Installation of the Conservation Practices

Conservation Practice	Maximum Length	Maximum Area (Acreage)	Maximum Volume
1. Access Roads* (Improvement (560) Includes repair or removal of culverts from non-fish bearing streams *Access road improvements typically involve multiple installations spread out over a long reach of road.	• 2,000 feet of work over 2 miles • average: 1,000 feet of work over 2 miles • (average culvert removal: 20 foot length of culvert)	• 2 acres • average: 0.5 acre	• 1,500 cubic yards • average: 750 cubic yards
2. Critical Area Planting (342)	• 1 mile • average: 500 feet	• 1 acre, except 0.25 acre in riparian areas • average: 0.25 acre	• 800 cubic yards • average: 500 cubic yards
3. Overland Flow Interceptors for Use in Upland Areas (Diversion Structures) (362)	• 2,000 feet (assume 10 feet wide and 1 foot deep) • average: 1,000 feet	• 2 acres • average: 1 acre	• 1,500 cubic yards • average: 1,500 cubic yards
4. Filter Strip (393)	• 2,500 feet (along waterways) (assume 20 feet wide, 1 foot deep) • average: 500 feet	• 1 acre (along waterways) • average: 0.5 acre	• 2,000 cubic yards • average: 500 cubic yards
5. Grade Stabilization Structure (410)	• Average: 3 to 4 structures per 500 feet • Max: 10 structures over length of gully = 1,000 feet	N/A	30 cubic yards per structure Average: 100 cubic yards total
6. Grassed Waterway (412)	• 2,000 feet • average: 1,000 feet	• 2 acre • average: 1 acre	• 2,000 cubic yards • average: 1,000 cubic yards
7. Obstruction Removal (500)	Difficult to estimate total number of objects to be removed from stream (2000 feet – same for gullies, fish habitat, and streambank protection?)	N/A	N/A

Conservation Practice	Maximum Length	Maximum Area (Acreage)	Maximum Volume
8. Pipeline (516)	• 200 feet through riparian areas (includes 50 feet on each bank and across a stream or gully) • up to 2 miles through upland areas • average: 150 feet	• 0.25 acre through riparian areas/crossing streams • average: 0.1 acre	• 50 cubic yards through riparian areas • average: 25 cubic yards
9. Pond Restoration (378R)	N/A	• Average = 4 acre pond repair Average spillway = 300 feet	
10. Riparian Forest Buffer (391)	• 1 mile	• Max. width (for each side of a stream): 150 feet from normal water line or the top of bank measured horizontally on a line perpendicular to the water body	N/A
11. Sediment Basin (350)	N/A	• 2 acres • average: 1 acre	• 1,500 cubic yards (compacted embankment) • average: 1,500 cubic yards
12. Spring Development (574)	N/A	• 0.05 acre • average: 0.05 acre	• 50 cubic yards • average: 50 cubic yards
13. Streambank Protection (580)	**Vegetation:** • 2,000 feet • average: 1,000 feet **Rock**: • 500 feet • average: 300 feet	**Vegetation:** • 3 acres • average: 1.5 acre	**Vegetation:** • 1,500 cubic yards • average: 1,500 cubic yards **Rock:** • 300 cubic yards average: 300 cubic yards

Conservation Practice	Maximum Length	Maximum Area (Acreage)	Maximum Volume
14. Stream Channel Stabilization (584)	• 2,000 feet • average: 1000 feet	• 2 acres • average: 1 acre	• 1,500 cubic yards average: 750 cubic yards
15. Stream Habitat Improvement and Management (395)	Not to exceed 20 structures at multiple bank locations over 2000 feet)	N/A	25 cubic yards per structure
16. Structure for Water Control (587)	N/A	N/A	N/A
17. Underground Outlets (620) (energy dissipater at outlet)	• 200 feet • In riparian: <100 feet (laid on surface)	• 0.5 acre (10 feet x 15 feet) average: <0.1 acre (10 feet x 15 feet	• 70 cubic yards • average: 20 cubic yards
18. Water and Sediment Control Basin (638)	N/A	• 2 acres • average 0.5 acre	• 1,500 cubic yards (compacted embankment) • average: 1,500 cubic yards

Table 3. Proposed Protective Measures and Conditions for Specific Conservation Practices.

Access Road (Improvement) (560)	No additional measures. Road improvements in Alameda County are modeled on "Low Maintenance Roads for Ranch, Fire, and Utilities Access: A Practical Field Guide"
Critical Area Planting (342)	A filter fabric fence, fiber rolls, or hay bales will be used, if needed, to keep sediment from flowing into the adjacent water body during installation or maintenance of a critical area planting above the high water line. Planting above the ordinary high water line may occur at any time of the year. When vegetation is sufficiently mature to provide erosion control, it may be appropriate to remove the fence, fiber rolls, or hay bales. Annual review, up to 5 years, by NRCS/ACRCD will occur until the critical area planting is established to control erosion.
Diversion Structures = Overland Flow Interceptors for Use in Upland Areas (362)	No additional measures.
Filter Strip (393)	No additional measures.
Grade Stabilization Structure (410)	No additional measures.
Grassed Waterway (412)	Grassed waterways are designed to convey the runoff associated with the contributory area along a prescribed slope to avoid erosion caused by the concentrated flow. The waterway may not divert water out of the natural sub-watershed.
Obstruction Removal (500)	Wherever possible, hand labor will be used; however, heavy equipment such as mechanical excavators may be employed in some projects, particularly where the project requires removal of larger items such as cars and appliances. If water must be diverted around a work site in a fish-bearing stream, a conveyance system will be developed that allows for fish passage around and downstream of the work site.
Pipeline (516)	A pipeline will be installed and maintained only when a streambed is dry or dewatered.
Pond Restoration (378R)	No additional measures.
Riparian Forest Buffer (391)	Riparian forest buffers will be planted with native plants characteristic of the local habitat type. Planting layout will be designed in such a way as to minimize maintenance and the potential for flooding.
Sediment Basin (350)	Where water and sediment control basins create marshy conditions and attract nesting birds and other wildlife, maintenance may occur only after August 1st. Sediment basins will not be constructed in a stream channel or other permanent water bodies. The work may involve grading along one shore of the stream to remove gullies or eroded banks prior to building a streamside basin. Where construction of a sediment basin includes a pipe or structure that empties into a stream, an energy dissipater will be installed to reduce bank scour. The methods used in the construction or maintenance of sediment basins will prevent increases in turbidity in the stream (as measured by NTU) of more than 10 percent of

	upstream background.
Spring Development (574)	Spring developments will be designed in such a way as to allow all unused water to be released back into the spring in its natural condition. Float valves will be required in all tanks and troughs to ensure that only the water necessary for livestock consumption is removed from the spring.
Streambank Protection (580)	No additional measures.
Stream Channel Stabilization (584)	No additional measures.
Stream Habitat Improvement and Management (395)	The stream habitat improvement and management conservation practice will be designed and implemented in accordance with the California Department of Fish and Game's *California Salmonid Stream Habitat Restoration Manual.*
Structure for Water Control (587)	This practice will be used generally to replace or retrofit existing culverts in fish-bearing streams. However, the placement of new culverts, when environmentally beneficial, would also be covered by this program. In addition to the general limitations set forth in the previous section, the following measures will be employed for projects using structures for water control. Culverts will be consistent with California Department of Fish and Game's "Culvert Criteria for Fish Passage" (September2001) and National Marine Fisheries Service Southwest Region's "Guidelines for Salmonid Passage as Stream Crossings" (September2001). Whenever a culvert may be constructed in a flowing channel site-specific plan for a conveyance system to isolate the workspace from the flowing water and allow for fish passage will be developed and implemented.
Underground Outlet (620)	Where an underground outlet empties into a stream, an energy dissipater will be installed to reduce bank scour.
Water and Sediment Control Basin (638)	See Sediment Basin above.

Alameda County Permit Coordination Program Location Map

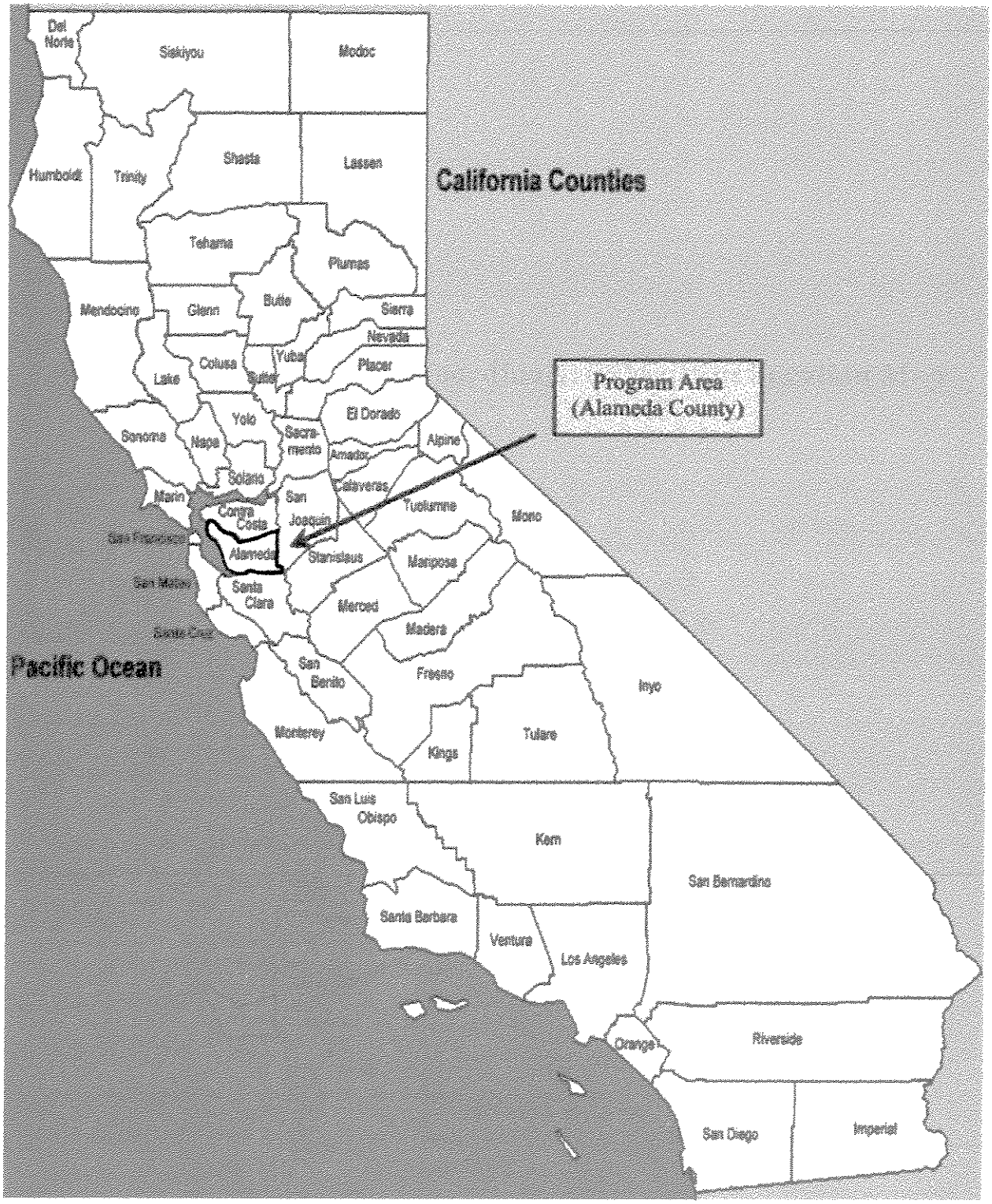

Figure 1

DEPARTMENT OF THE ARMY
San Francisco District, Corps of Engineers
333 Market Street, CESPN-CO-R
San Francisco, California 94105-2197

1ST CLASS MAIL